efficient treatment or respiratory insufficiency patients; complications of this type of therapy have been reduced, and more satisfactory survival rates and rehabilitation obtained. (*Barber, H. O., and others: Respiratory Unit. The Toronto General Hospital Unit for Treatment of Severe Respiratory Insufficiency, Canad. M. A. J. 81: 97 (July 15) 1959.*)

HYPOTHERMIA Laboratory studies and clinical experiences support the concept that hypothermia may be beneficial in portacaval shunt operations upon patients with diffuse, severe hepatocellular disease. Successful results are reported in 5 elective and 5 emergency, postcaval shunt operations under hypothermia. Immersion hypothermia with temperatures stabilized at 30 C. was employed often with pentothal-cyclopropane induction anesthesia. (*Clauss, R. H., and others: Hypothermia for Portacaval Shunts, Ann. Surgery 150: 99 (July) 1959.*)

HYPOTHERMIA Adult rats and mice that were cooled quickly below 11 C. core temperature usually ceased to breathe. Suspension of breathing and heartbeats were tolerated at 2 C. for one hour, whether artificial breathing was given or not and whether air or nitrogen filled the lungs. At heart temperatures of 10 C. where heart beat was maintained, rats survived if artificial ventilation with nitrogen was provided for 0.4 of an hour or if ventilation with air was provided for two hours. The limitation of times less than 1.5 hours was imposed mostly by anoxia. (*Adolph, E. F. and Goldstein, J.: Survival of Rats and Mice Without Oxygen in Deep Hypothermia, J. Appl. Physiol. 14: 599 (July) 1959.*)

HYPOTHERMIA Fifteen out of 33 dogs subjected to hypothermia produced by external cooling survived circulatory arrest of 45 minutes during which the average temperature reached was 19.6 C. The anesthesia was produced with cyclopropane, during the early part of the cooling. Each animal was slightly hyperventilated with 100 per cent oxygen. Before the cooling was completed, the animals had received a mixture of mepazine and in some cases potassium chloride in a 5 per cent solution. Mepazine produced slowing of the heart, prolongation of conduction within the ventricle, and decreased myocardial irritability. Potassium chloride prevented severe *p*H drop. It was considerably more difficult to restore sinus rhythm following complete cardiac standstill than in those instances in which the heart still beat occasionally. (*Corssen, G. G., and others: Pharmaco-Dynamic Management of Cardiac Action During Hypothermia, South. M. J. 52: 1009 (Sept.) 1959.*)

HYPOTHERMIA During the induction of hypothermia in 10 anaesthetized patients the electrocardiogram regularly revealed an extra, slowly inscribed deflection (J. deflection) in the early part of the ST segment which grew in size as the temperature fell. Finally the T wave became inverted. The J deflection was also observed during experimental hypothermia in dogs. The time of appearance was unrelated to body temperature or arterial blood *p*H, and there was no correlation between time of onset or severity of changes and the onset of ventricular fibrillation. (*Emslie-Smith, D., Sladden, G. E., and Stirling, G. R.: The Significance of Changes in Electrocardiogram in Hypothermia, Brit. Heart J. 21: 343, 1959.*)

DRUG PLASMA LEVELS Plasma concentrations of thiopentone and buthalitone in human subjects were followed for 24 hours after intravenous administration. Buthalitone was distributed to the tissues more rapidly but was metabolized at a slower rate than thiopentone. The relationships between these findings and differences in plasma protein binding and oil/water partition coefficients were studied. It was suggested that some of the differences observed in potency between the substances is a reflection of differences in their modes of distribution. There appears to be a tendency for more thiopentone to enter the brain but more buthalitone appears to enter the tissues generally. No relationship was found between speed of recovery from anesthesia and plasma barbiturate concentrations. (*Kane, P. O., and Smith, S. E.: Thiopentone and Buthalitone: Relationship Between Depth of Anesthesia, Plasma Concentration and Plasma Protein Binding, Brit. J. Pharmacol. 14: 261 (June) 1959.*)